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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,338	12/19/2001	David K. Platner	60130-1230/01MRA0409	3427

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EXAMINER

SWENSON, BRIAN L

ART UNIT

PAPER NUMBER

3618

DATE MAILED: 08/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/025,338

Applicant(s)

PLATNER ET AL.

Examiner

Brian Swenson

Art Unit

3618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,139,464 issued to Roske.

Roske in Figures 1-5 and respective portions of the specification teach of an electric vehicle drive assembly including: an axle (Col. 3, lines 19-21) mounted to a suspension system of a vehicle frame (the suspension is not shown, but is inherently included in the vehicle drive system to attach the frame to the vehicle). The examiner hereby takes Official Notice that the vehicle inherently includes a suspension. The axle defining a first axis; a wheel hub (5) mounted to the vehicle axle and rotatable about the first axis; a planetary gear set (elements 3,14,15,16) mounted to the axle to drive the wheel hub; an electric motor (1) mounted to a member of the vehicle frame, the electric motor mounted parallel and offset to the vehicle axle; and a drive shaft extending from the electric motor to drive the planetary gear set (see at least Figure 1; Col. 1, lines 41-43; the drive shaft is the output shaft of the electric motor that meshes with the spur gear collective drive (2)). Included in the invention is a plurality of planet gears (3) rotatably mounted to a planet carrier (16), to drive an output shaft to the drive the wheel hub.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Armington in view of U.S. Patent No. 4,057,121 issued to Stedman.

In regards to claim 1, Armington teaches in Figures 1-6 and respective portions of the specification of a electric vehicle drive system including: a vehicle frame (34); an axle (8) mounted to said suspension system, said axle defining a first axis; a wheel hub mounted to said vehicle axle, said wheel hub rotatable about said first axis; a planetary gear set (Col. 2, lines14-16) mounted to said axle to drive said wheel hub; an electric motor (29; Figure 1) mounted to a member of said vehicle frame, said electric motor mounted substantially parallel to said vehicle axle; and a drive shaft (shown in Figure 1 connected to pinion 28) extending from said electric motor to drive said planetary gear set.

Armington shows in Figures 2 and 5 the axle (8) is rigidly mounted to the frame (34).

Stedman teaches of a rear axle suspension system including electric drive motors (29). Figure 2, shows a suspension system (16,25) mounted to the vehicle frame and the drive axle mounted to the suspension system. It would have been obvious to include a suspension system, as taught by Stedman into the invention taught

by Armington. One would be motivated to include a suspension system to allow for a smoother ride.

In regards to claim 2 Armington teaches of the planetary gear set includes a ring gear (19), the drive shaft driving an outer diameter teeth set about an outer diameter of said ring gear (Figure 1; Col. 2, lines 32-33).

In regards to claim 3 Armington teaches of the planetary gear set including an input pinion (21; Figure 1; Col. 2, lines 32-33) meshed with said outer diameter teeth set, said input gear pinion by said drive shaft.

In regards to claim 4 Armington teaches of the input pinion defining a pinion axis substantially parallel to said first axis (Figure 1).

In regards to claim 5 Armington teaches of the electric motor (29) mounted offset and substantially parallel to said first axis (Figure 1).

In regards to claim 6 Armington teaches of the planetary gear set including a stationary sun gear (17). The sun gear is driven by shaft 8, which is driven by motor (1), Armington teaches that the vehicle can be operated without motor (1; Col. 3, lines 42-43) on, which would fix the sun gear (17) to be stationary.

In regards to claim 7 Armington teaches of the planetary gear set including a plurality of planet gears (18) rotatably mounted to a planet carrier (9), said planet carrier driving an out put shaft to said wheel hub.

In regards to claim 8-9 and 11-12 Armington as modified by Stedman, disclose the claimed invention, in reference to claims 1-7 above, except Armington discloses a

Art Unit: 3618

single motor to drive both wheels (10) through an intermediate gearing set (24,25 shown in Figure 4).

Stedman shows in Figure 1, a drive motor placed on both sides of the vehicle to drive both wheels.

It would have been obvious to one having ordinary skill in the art at the time of invention to provide a motor on both sides of the vehicle, as taught by Stedman to drive each wheel (10) individually in the invention disclosed by Armington. Such a modification would involve a duplication of the working parts of the invention and be within the level of ordinary skill in the vehicle art.

In regards to claim 10, Armington shows in Figure 2 the motor's (29) drive shaft axis and a substantial portion of the motor is mounted above the vehicle's axle, shown collinear with element (9) in Figure 2.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 5,960,901 issued to Hanagan teaches of a wheel drive with a motor (70) mounted substantially above and parallel to the wheel's axle.

U.S. Patent No. 6,017,289 issued to Gaffney teaches of a planetary gear assembly for a wheel drive unit.

U.S. Patent No. 6,540,632 issued to Wendl et al. teach of a wheel drive with a drive motor (1) that drives a wheel, the motor and wheel have offset axes.

U.S. Patent No. 1,199,925 issued to Queeney teach of a drive unit that drives the wheels of a vehicle by a meshing spur gear train.

U.S. Patent No. 3,265,147 issued to Coordes teach of an auxiliary drive unit mounted substantially above the axis of rotation for a wheel. The auxiliary drive unit drives the wheels by the engagement of gears (28,30).

U.S. Patent No. 5,829,542 issued to Lutz and U.S. Patent No. 5,443,130 issued to Tanaka et al. teach of drive assemblies for driving axles mounted to suspension members.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Swenson whose telephone number is (703) 305-8163. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Johnson can be reached on (703) 308-0885. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

Brian Swenson  
Examiner  
Art Unit 3618



6/15/03

bls

